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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/816,855	04/05/2004	Akihiro Okano	US01-03060	1830

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EXAMINER

RICHER, AARON M

ART UNIT	PAPER NUMBER
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2628

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/02/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No. 10/816,855	Applicant(s) OKANO, AKIHIRO	
	Examiner Aaron M. Richer	Art Unit 2628	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 December 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-21, 23 and 25 is/are rejected.
- 7) ☒ Claim(s) 22, 24, and 26 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1, 8, and 15 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 8, 15, 21, 23, and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Marflak (U.S. Patent 6,369,851) in view of Weitbruch (U.S. Publication 2004/0165064).

4. As to claims 1 and 8, Marflak discloses a device for preventing burn-in of a display screen of an image display device, the device comprising:

a blurring device for applying a blurring process to an input image signal to obtain a blurred image signal, without shifting an image represented by the input image signal (fig. 4; col. 3, lines 48-61; col. 5, lines 9-24; edges around an image are "rolled off" or blurred to make the transition to black smoother). Marflak does not disclose the contrast inversion device claimed.

Weitbruch, however, discloses a contrast inversion device for inverting contrast of a luminance level of the blurred image signal associated with the single displayed screen to generate a burn-in prevention image signal associated with the single

displayed screen (p. 3, sections 0076-0078; p. 4, sections 0079, 0081; the "inverted picture" drawn on top of the original to prevent burn-in corresponds a contrast inversion device; this can be a "single screen" if only a single screen is causing the burn-in). The motivation for this is to reduce ghosting images from a preceding picture (p. 2, section 0023). It would have been obvious to one skilled in the art to modify Marflak to invert contrast of a signal in order to reduce ghosting images from a preceding picture as taught by Weitbruch.

5. As to claim 15, Marflak discloses a display apparatus comprising:

a display device including a display screen (fig. 3, element 322);

a contour modification circuit for blurring an input image, without shifting the input image, to obtain a blurred image when the input image includes a still image (fig. 4; col. 3, lines 48-61; col. 5, lines 9-24; edges around an image are "rolled off" or blurred to make the transition to black smoother). Marflak does not disclose the contrast inversion device claimed.

Weitbruch, however, discloses a contrast inversion circuit for inverting contrast of a luminance level of the blurred image to obtain a contrast inverted image (fig. 8; fig. 20, elements 12,13,15,16) and a driver for displaying the contrast inverted image on the display screen when the input image includes a still image (fig. 8; fig. 20, elements 10,11,13,14). The motivation for this is to reduce ghosting images from a preceding picture (p. 2, section 0023). It would have been obvious to one skilled in the art to modify Marflak to invert contrast of a signal in order to reduce ghosting images from a preceding picture as taught by Weitbruch.

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6. As to claims 21, 23, and 25, Marflak discloses a blurring process as in claim 1.

Weitbruch discloses a device wherein a burn-in prevention device applies a burn-in prevention process when the input image signal includes a still image which lasts at least a first predetermined period (p. 5, section 0100; after a still image appears for a while, the display burn-in correction is activated), and the device further comprises:

a controller for increasing the luminance level of the blurred, contrast-inverted image signal if the still image lasts a second predetermined period which is longer than the first predetermined period (p. 4, section 0089; after still black bars have appeared for time T, an inverted picture is used as a "cleaning stage"; this increases luminance since the areas were previously black and are now white). Motivation for combining Marflak and Weitbruch can be found in the rejection to claim 1.

7. Claims 4, 11, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Marflak in view of Weitbruch and further in view of Bellwood (U.S. Publication 2004/0114040).

8. As to claims 4, 11, and 20, neither Marflak nor Weitbruch teaches applying a position variation process to the burn-in prevention image signal to shift, with an elapse of time, a display position on the display screen of a display object that is displayed on the basis of the input image signal. Bellwood, however, does teach this position variation process (p. 2, sections 0020-0021). The motivation for this is to use unused screen real estate to keep constant brightness capabilities across the screen and prevent imprinting (p. 1, sections 0006-0008). It would have been obvious to one skilled

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in the art to modify Marflak in view of Weitbruch to shift an image in order to prevent imprinting as taught by Bellwood.

9. Claims 2, 3, 5, 6, 9, 10, 12, 13, and 16-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Marflak in view of Weitbruch and further in view of Crinon (U.S. Publication 2002/0191846).

10. As to claims 2, 9, 16, and 18, neither Marflak nor Weitbruch discloses a device wherein pixel data of the input image signal is grouped into a plurality of pixel blocks, each pixel block includes N rows.times.M columns of pixels and the blurring device is a quantizer that quantizes the pixel data of the input image signal for each pixel block. Crinon, however, discloses an image divided into non-overlapping macroblocks, which correspond to a plurality of pixel blocks that can consist of any number of rows or columns of pixels (p. 1, section 0010). Crinon further discloses a quantizer to handle the macroblock input, which works to combine foreground and background images (p. 3, section 0038). The quantizer from Crinon would be used in the burn-in compensation method of Weitbruch, as Weitbruch's invention "wiped" the screen. It would have been obvious to one skilled in the art to modify Marflak and Weitbruch to utilize a quantizer in "wiping" in order to speed image input as taught by Crinon.

11. As to claims 3, 6, 10, 13, and 19, Crinon discloses a device for varying a size of the pixel block for each field of the input image signal (p. 2, section 0030; changing macroblock dimensions correspond to the ability to vary size of a pixel block for each field).

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12. As to claims 5, 12, and 17, Crinon discloses a device wherein pixel data of the input image signal is grouped into a plurality of pixel blocks, each pixel block includes N rows.times. M columns of pixels (see rejection of claim 2), and the blurring device is a mosaicking circuit that mosaicks the pixel data of the input image signal for each pixel block (p. 1, section 0010). Macroblocks and vectors are used to align an individual macroblock with a corresponding mosaic sample array. This mosaicking creates a combined image that would result in a blurred image that Weitbruch's invention could then apply contrast inversion to. Also, motivation for combining the inventions can be found in the rejection to claim 2.

13. Claims 7 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Marflak in view of Weitbruch and Crinon and further in view of Bellwood.

14. As to claims 7 and 14, none of Marflak, Weitbruch, and Crinon teaches applying a position variation process to the burn-in prevention image signal to shift, with an elapse of time, a display position on the display screen of a display object that is displayed on the basis of the input image signal. Bellwood, however, does teach this position variation process (p. 2, sections 0020-0021). The motivation for this is to use unused screen real estate to keep constant brightness capabilities across the screen and prevent imprinting (p. 1, sections 0006-0008). It would have been obvious to one skilled in the art to modify Marflak, Weitbruch, and Crinon to shift an image in order to prevent imprinting as taught by Bellwood.

Conclusion

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15. Claims 22, 24, and 26 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

16. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

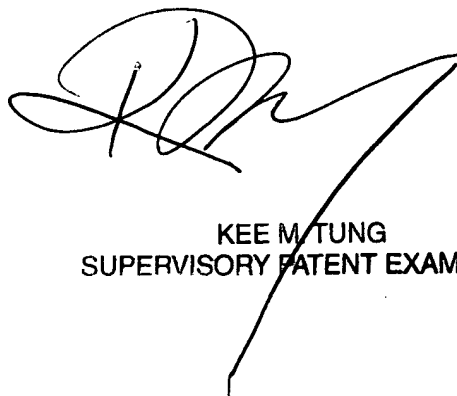
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aaron M. Richer whose telephone number is (571) 272-7790. The examiner can normally be reached on weekdays from 8:30AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kee Tung can be reached on (571) 272-7794. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AMR
2/27/07

A handwritten signature in black ink, appearing to read 'K. M. TUNG', with a long, sweeping horizontal stroke extending to the right.

KEE M. TUNG
SUPERVISORY PATENT EXAMINER